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22		PubMed: biomedical literature citations and abstracts		42		Books: online books	
13		PubMed Central: free, full text journal articles		1		OMIM: online Mendelian Inheritance in Man	
71		Site Search: NCBI web and FTP sites		none		OMIA: online Mendelian Inheritance in Animals	
none		CoreNucleotide: Core subset of nucleotide sequence records		1		dbGaP: genotype and phenotype	
none		EST: Expressed Sequence Tag records		none		UniGene: gene-oriented clusters of transcript sequences	
none		GSS: Genome Survey Sequence records		none		CDD: conserved protein domain database	
none		Protein: sequence database		none		3D Domains: domains from Entrez Structure	
21		Genome: whole genome sequences		none		UniSTS: markers and mapping data	
none		Structure: three-dimensional macromolecular structures		none		PopSet: population study data sets	
none		Taxonomy: organisms in GenBank		none		GEO Profiles: expression and molecular abundance profiles	
none		SNP: single nucleotide polymorphism		25		GEO DataSets: experimental sets of GEO data	
127		Gene: gene-centered information		14		Cancer Chromosomes: cytogenetic databases	
8		HomoloGene: eukaryotic homology groups		none		PubChem BioAssay: bioactivity screens of chemical substances	
76		PubChem Compound: unique small molecule chemical structures		none		GENSAT: gene expression atlas of mouse central nervous system	
9		PubChem Substance: deposited chemical substance records		9313		Probe: sequence-specific reagents	
1		Genome Project: genome project information		5		Protein Clusters: a collection of related protein sequences	
3		Journals: detailed information about the journals indexed in PubMed and other Entrez databases		none		MeSH: detailed information about NLM's controlled vocabulary	
21		NLM Catalog: catalog of books, journals, and audiovisuals in the NLM collections					





















































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 29 Site Search: NCBI web and FTP sites	  none OMIA: online Mendelian Inheritance in Animals
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 none GSS: Genome Survey Sequence records	  none CDD: conserved protein domain database
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





















































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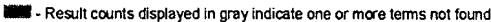
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

































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503  Gene: gene-centered information 	3813  Cancer Chromosomes: cytogenetic databases 
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 7 Site Search: NCBI web and FTP sites	 2 OMIA: online Mendelian Inheritance in Animals
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 43 Protein: sequence database	 38 3D Domains: domains from Entrez Structure
 14 Genome: whole genome sequences	 8762 UniSTS: markers and mapping data
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


























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





















































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2246  PubMed Central: free, full text journal articles 	496  OMIM: online Mendelian Inheritance in Man 
none  Site Search: NCBI web and FTP sites 	none  OMIA: online Mendelian Inheritance in Animals 
none  CoreNucleotide: Core subset of nucleotide sequence records 	1  dbGaP: genotype and phenotype 
none  EST: Expressed Sequence Tag records 	26  UniGene: gene-oriented clusters of transcript sequences 
none  GSS: Genome Survey Sequence records 	none  CDD: conserved protein domain database 
none  Protein: sequence database 	17  3D Domains: domains from Entrez Structure 
70  Genome: whole genome sequences 	2  UniSTS: markers and mapping data 
4  Structure: three-dimensional macromolecular structures 	none  PopSet: population study data sets 
none  Taxonomy: organisms in GenBank 	none  GEO Profiles: expression and molecular abundance profiles 
1821  SNP: single nucleotide polymorphism 	1  GEO DataSets: experimental sets of GEO data 
491  Gene: gene-centered information 	236  Cancer Chromosomes: cytogenetic databases 
43  HomoloGene: eukaryotic homology groups 	none  PubChem BioAssay: bioactivity screens of chemical substances 
none  PubChem Compound: unique small molecule chemical structures 	none  GENSAT: gene expression atlas of mouse central nervous system 
none  PubChem Substance: deposited chemical substance records 	1  Probe: sequence-specific reagents 
none  Genome Project: genome project information 	6  Protein Clusters: a collection of related protein sequences 
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1  NLM Catalog: catalog of books, journals, and audiovisuals in the NLM collections 	




































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 878 PubMed Central: free, full text journal articles	 14562 OMIM: online Mendelian Inheritance in Man
 7 Site Search: NCBI web and FTP sites	 2 OMIA: online Mendelian Inheritance in Animals
 none CoreNucleotide: Core subset of nucleotide sequence records	 4 dbGaP: genotype and phenotype
 none EST: Expressed Sequence Tag records	 30174 UniGene: gene-oriented clusters of transcript sequences
 none GSS: Genome Survey Sequence records	 702 CDD: conserved protein domain database
 none Protein: sequence database	 none 3D Domains: domains from Entrez Structure
 6104 Genome: whole genome sequences	 8762 UniSTS: markers and mapping data
 none Structure: three-dimensional macromolecular structures	 42267 PopSet: population study data sets
 none Taxonomy: organisms in GenBank	 24156492 GEO Profiles: expression and molecular abundance profiles
 792 SNP: single nucleotide polymorphism	 7702 GEO DataSets: experimental sets of GEO data
 310552 Gene: gene-centered information	 2427 Cancer Chromosomes: cytogenetic databases
 44201 HomoloGene: eukaryotic homology groups	 91 PubChem BioAssay: bioactivity screens of chemical substances
 21 PubChem Compound: unique small molecule chemical structures	 3430 GENSAT: gene expression atlas of mouse central nervous system
 2164 PubChem Substance: deposited chemical substance records	 1478964 Probe: sequence-specific reagents
 253 Genome Project: genome project information	 378 Protein Clusters: a collection of related protein sequences
 20 Journals: detailed information about the journals indexed in PubMed and other Entrez databases	 1 MeSH: detailed information about NLM's controlled vocabulary
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17475		PubMed: biomedical literature citations and abstracts		45	Books: online books
22270		PubMed Central: free, full text journal articles		143	OMIM: online Mendelian Inheritance in Man
2		Site Search: NCBI web and FTP sites		none	OMIA: online Mendelian Inheritance in Animals
none		CoreNucleotide: Core subset of nucleotide sequence records		none	dbGaP: genotype and phenotype
none		EST: Expressed Sequence Tag records		none	UniGene: gene-oriented clusters of transcript sequences
none		GSS: Genome Survey Sequence records		none	CDD: conserved protein domain database
none		Protein: sequence database		384	3D Domains: domains from Entrez Structure
5		Genome: whole genome sequences		none	UniSTS: markers and mapping data
132		Structure: three-dimensional macromolecular structures		3	PopSet: population study data sets
none		Taxonomy: organisms in GenBank		none	GEO Profiles: expression and molecular abundance profiles
792		SNP: single nucleotide polymorphism		1	GEO DataSets: experimental sets of GEO data
8		Gene: gene-centered information		none	Cancer Chromosomes: cytogenetic databases
211		HomoloGene: eukaryotic homology groups		none	PubChem BioAssay: bioactivity screens of chemical substances
none		PubChem Compound: unique small molecule chemical structures		none	GENSAT: gene expression atlas of mouse central nervous system
none		PubChem Substance: deposited chemical substance records		none	Probe: sequence-specific reagents
none		Genome Project: genome project information		none	Protein Clusters: a collection of related protein sequences
none		Journals: detailed information about the journals indexed in PubMed and other Entrez databases		none	MeSH: detailed information about NLM's controlled vocabulary
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161		PubMed Central: free, full text journal articles		131	OMIM: online Mendelian Inheritance in Man
2		Site Search: NCBI web and FTP sites		none	OMIA: online Mendelian Inheritance in Animals
none		CoreNucleotide: Core subset of nucleotide sequence records		9	dbGap: genotype and phenotype
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6		GSS: Genome Survey Sequence records		1	CDD: conserved protein domain database
2		Protein: sequence database		46	3D Domains: domains from Entrez Structure
212		Genome: whole genome sequences		8852	UniSTS: markers and mapping data
8		Structure: three-dimensional macromolecular structures		23930	PopSet: population study data sets
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19815377		SNP: single nucleotide polymorphism		24	GEO DataSets: experimental sets of GEO data
305		Gene: gene-centered information		46	Cancer Chromosomes: cytogenetic databases
81		HomoloGene: eukaryotic homology groups		none	PubChem BioAssay: bioactivity screens of chemical substances
2		PubChem Compound: unique small molecule chemical structures		434	GENSAT: gene expression atlas of mouse central nervous system
5		PubChem Substance: deposited chemical substance records		13	Probe: sequence-specific reagents
590		Genome Project: genome project information		none	Protein Clusters: a collection of related protein sequences
1		Journals: detailed information about the journals indexed in PubMed and other Entrez databases		2	MeSH: detailed information about NLM's controlled vocabulary
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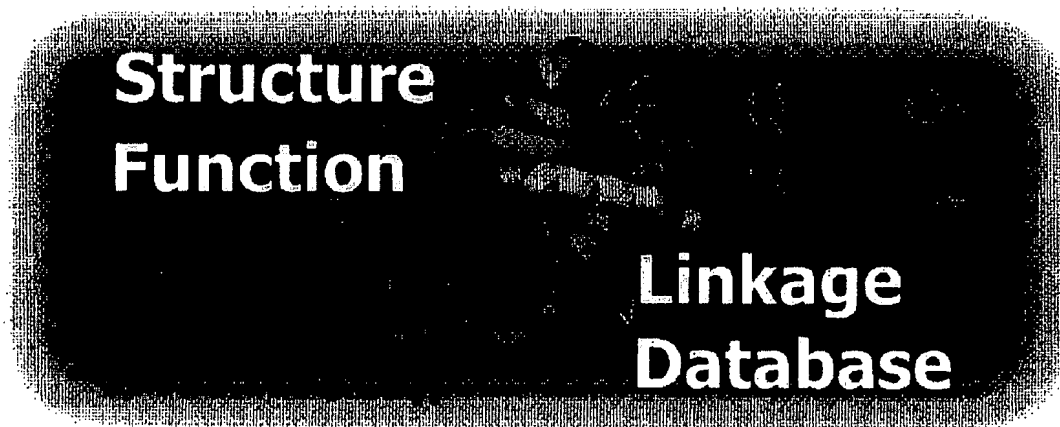
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51  PubMed: biomedical literature citations and abstracts	1  Books: online books
70  PubMed Central: free, full text journal articles	1  OMIM: online Mendelian Inheritance in Man
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36  CoreNucleotide: Core subset of nucleotide sequence records	7  dbGaP: genotype and phenotype
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20  HomoloGene: eukaryotic homology groups	none  PubChem BioAssay: bioactivity screens of chemical substances
none  PubChem Compound: unique small molecule chemical structures	none  GENSAT: gene expression atlas of mouse central nervous system
13  PubChem Substance: deposited chemical substance records	none  Probe: sequence-specific reagents
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Welcome to the Structure-Function Linkage Database

What is the SFLD?

- A database that links evolutionarily related sequences and structures from mechanistically diverse superfamilies of enzymes to their chemical reactions
- Correlates conserved active site residues with specific partial reactions that all members of a superfamily perform ([more details](#))

What can I use the SFLD for?

- Classify a sequence into the nearest superfamily and retrieve the associated sequences, structures, and chemical reactions of even diverse relatives
- Infer function of a sequence by viewing it in the context of curated proteins at the superfamily and family level

What makes the SFLD unique?

- The SFLD correlates conserved partial reactions associated with active site similarities in all members of a superfamily
- Provides the ability to search for related proteins by their partial chemical reactions

How can I use the SFLD? ([Instructions & Caveats](#))

- [Browse by superfamily, subgroup, and family](#)
- [Browse by reaction \(overall\)](#)
- [Search by enzyme](#) (GI number or name)
- [Search by reaction](#) (overall or partial)
- [Classify a sequence](#) into a superfamily, subgroup, or family

The SFLD is a collaborative project of the Babbitt and Ferrin labs at UCSF. We gratefully acknowledge support from NIH GM60595 and NSF DBI0234768 (to PCB) and NIH RR01061 (to TEF).

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